

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

REC'D 22 MAR 2005

WIPO PCT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P22149PCAU	<b>FOR FURTHER ACTION</b>	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416).
International Application No. <b>PCT/AU2003/001709</b>	International Filing Date (day/month/year) 23 December 2003	Priority Date (day/month/year) 23 December 2002
International Patent Classification (IPC) or national classification and IPC Int. Cl. <sup>7</sup> A23G 1/00, 1/04		
Applicant MARS INCORPORATED et al		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 6 sheets, including this cover sheet. <input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT). These annexes consist of a total of sheet(s).
3. This report contains indications relating to the following items:  I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input checked="" type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input checked="" type="checkbox"/> Certain observations on the international application

Date of submission of the demand 20 July 2004	Date of completion of the report 8 March 2005
Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaaustralia.gov.au Facsimile No. (02) 6285 3929	Authorized Officer  <b>CHRISTOPHER LUTON</b> Telephone No. (02) 6283 2256

**I. Basis of the report****1. With regard to the elements of the international application:\***

- ☒ the international application as originally filed.
- ☐ the description, pages , as originally filed,  
pages , filed with the demand,  
pages , received on with the letter of
- ☐ the claims, pages , as originally filed,  
pages , as amended (together with any statement) under Article 19,  
pages , filed with the demand,  
pages , received on with the letter of
- ☐ the drawings, pages , as originally filed,  
pages , filed with the demand,  
pages , received on with the letter of
- ☐ the sequence listing part of the description:  
pages , as originally filed  
pages , filed with the demand  
pages , received on with the letter of

**2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.**

These elements were available or furnished to this Authority in the following language which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

**3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:**

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

**4. ☐ The amendments have resulted in the cancellation of:**

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/fig.

**5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\***

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report

**IV. Lack of unity of invention**

1. In response to the invitation to restrict or pay additional fees the applicant has:

- ☐ restricted the claims.
- ☐ paid additional fees.
- ☐ paid additional fees under protest.
- ☐ neither restricted nor paid additional fees.

2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

- ☐ complied with.
- ☒ not complied with for the following reasons:

Independent claims 1 and 8 relate to aerated chocolate having a uniformly small bubble size and a process for the production thereof. Page 13, lines 12-14 indicates that this aspect of the invention is achieved by increasing the speed of the mixer head. Independent claim 17 merely relates to a chocolate manufacturing process whereby a tempering step is omitted. Claim 17 does not include any features limiting the final bubble size of the product. Consequently, independent claim 17 does not share a special technical feature with the other independent claims.

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:

- ☒ all parts.
- ☐ the parts relating to claims Nos.

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. Statement**

Novelty (N)	Claims 1-7, 12, 13, 19, 20	YES
	Claims 8-11, 14-18	NO
Inventive step (IS)	Claims 12, 13, 19, 20	YES
	Claims 1-11, 14-18	NO
Industrial applicability (IA)	Claims 1-20	YES
	Claims	NO

**2. Citations and explanations (Rule 70.7)**

The following documents identified in the International Search Report have been considered for the purposes of this report:

D1 – WO 2001/080660 A1

D2 – WO 2001/015543 A1

D3 – WO 2001/030174 A1

D4 – EP 0730826 A1

The present invention relates to a chocolate product having gas micro-bubbles and methods for the manufacture thereof.

**NOVELTY (N) and INVENTIVE STEP (IS)**

D1 teaches the incorporation of gas into chocolate with a rotor mixing at high speed (see page 9, line 22 and claims 21-22). According to the present specification at page 13, lines 12-14, this is how the present invention is achieved. D1 also teaches that bubble improve stability. Therefore, claims 8-11 and 14-16 are not novel and do not involve an inventive step in light of D1.

In response to the first International Preliminary Examination Opinion, the Applicant submitted that the claims are distinguished from D1 on the basis that the process of D1 requires the presence of a tempering step at a certain stage. However, as claims 8-11 and 14-16 are silent with respect to this feature, they are not distinguished from the disclosure of D1. The Applicant subsequently submitted that claim 8 specifically requires that the stated steps be carried out in the specified order and that such requirement therefore excludes a tempering step. However, the mere fact that steps a) to f) are carried out in the specified order is not considered to necessarily exclude a tempering step from the overall scope of the claim. The actual wording of claim 8 does not suggest that the process consists exclusively of steps a) to f). Indeed, the word "including" is construed such that any method "including" steps a) to f) in the specified order would fall within the scope of the claim. Page 9 of D1 describes a process having (viz. "including") all of the essential features of claim 8 in the specified order. The fact that the method of D1 includes a tempering step does not alter this fact.

D1 does not disclose a product with gas bubbles having an average size of less than 25 microns and does not teach omission of the tempering step. Therefore, claims 1, 17 and claims dependent therefrom are novel and involve an inventive step in light of D1.

D2 teaches chocolate with microscopic bubbles (see page 3, line 12), but does not disclose or suggest a product having gas bubbles with an average diameter of less than 25 microns. D2 does not disclose or suggest the method of claim 8. In response to the first International Preliminary Examination Opinion, the Applicant asserted that the chocolate of D2 would necessarily have involved a tempered chocolate mass prior to the aeration step. Therefore, claims 1, 8, 17 and claims dependent therefrom are novel and involve an inventive step in light of D2.

(continued)

**VIII. Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Page 5, line 28 indicates that the invention relates to the omission of a tempering step. Page 13, lines 12-14 indicate that the invention relates to the use of a certain mixing head speed. It is not clear whether these two features represent separate inventions or whether both features are essential to the working of the invention. None of the independent claims are limited to both features.

In response to the above observations, the Applicant suggested that the specific rotor speeds identified on page 13 are not an essential feature of the invention. The Applicant submitted that "essentiality" resides in the choice of an aerator device which allows the uniform diffusion of gas bubbles into the liquid chocolate mixture thereby to achieve average bubble sizes of less than 25 microns, and preferably, 17 microns.

Thus, it would seem that the use of "an aerator device which allows the uniform diffusion of gas bubbles into the liquid chocolate mixture thereby to achieve average bubble sizes of less than 25 microns" is an essential feature of the invention. However, this feature is absent from claims 8 and 17. Claims 8 and 17, therefore, do not define the subject matter for which protection is sought in terms of the technical features of the invention (Rule 6.3(a)).

Also in response to the first International Preliminary Examination Opinion, the Applicant submitted that the "invention comprises, as one distinguishing feature, the absence of a specific or dedicated tempering machine/device such as temper-kettles or automatic temperers". This would therefore appear to be an essential feature of the invention. However, the product of claim 1 is not limited to being obtained by a method that excludes such a tempering step. Moreover, claim 8 does not define a process that excludes the tempering step. Therefore, claims 1 and 8 fail to define an essential feature of the invention.

**Supplemental Box**

(To be used when the space in any of the preceding boxes is not sufficient)

**Continuation of Box V**

D3 teaches aeration of chocolate by the use of shearing forces (eg. rotors) to reduce bubble size to any desired size (page 4, line 15). In response to the first International Preliminary Examination Opinion, the Applicant submitted that D3 does not identify "any desired" size or any numerical value of the bubble size. However, D3 discloses a method for the reduction of bubble size. In the absence of any teaching to the contrary, the method of D3 may be employed to produce a chocolate having gas bubbles with an average diameter of less than 25 microns. Consequently, claim 1 and claims dependent therefrom do not involve an inventive step in light of D3.

D4 discloses the incorporation of bubbles with a diameter of about 5 microns into chocolate without the use of a tempering step (column 6, lines 31-44). In light of this disclosure there existed no problem in the art to overcome in the provision of such a chocolate having a sugar based, shell coating. Consequently, claim 1 and claims dependent therefrom do not involve an inventive step in light of D4.

In response to the first International Preliminary Examination Opinion, the Applicant submitted that D4 teaches subsequent removal of the air from the chocolate (column 5, lines 21-48). This does not detract from the fact that D4 nevertheless teaches a method for the introduction of gas bubbles having an average diameter of less than 25 microns. That is, D4 addresses the problem of providing such bubbles into a chocolate. The skilled addressee would readily have appreciated that the gas removal step could be omitted.

The process of D4 includes the formation of a chocolate mixture and the transfer of that mixture to an aeration device including mechanical mixing means. Thus, D4 discloses all of the essential features of claim 17. Consequently, claim 17 and claims dependent therefrom are not novel and do not involve an inventive step in light of D4. Although this disclosure may only form one part of the overall process of D4, it nevertheless anticipates the process of claim 17.